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Towards a History of Projects

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Abstract

This introduction argues for the value of projecting as a category of analysis, while exploring the contexts for its emergence and spread as a genre of intellectual and practical activity in the sixteenth, seventeenth, and eighteenth centuries. The emergence of the morally ambivalent figure of the "projector" in Elizabethan and Stuart England – initially in connection with confessional strife and attacks on corruption, and subsequently in relation to colonial expansion, experimental philosophy, and commercial and fiscal innovation – provoked defences of projecting that articulated the relationship between private interest, individual effort, the public good, and collaborative scientific practice in new ways. German cameralists and French *philosophes* extended these arguments, while recuperating the figure of the projector, in the eighteenth century.

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Introduction

The word 'project' embraces undertakings of almost any kind today. The term was not always so elastic. In the early modern era, 'projects,' 'projecting,' and the 'projector' had specific and contentious implications, linking new knowledge and technology with changing articulations of the public good and the improvement of society.[1] This special issue traces some contours of these ideas, across several locales, from the late sixteenth to the late eighteenth centuries.

Projects attracted little notice in the decades after Joan Thirsk's *Economic Policy and Projects* (1978).[2] Since Markus Krajewski's edited volume, *Projektemacher* (2004), however, the literature has rapidly expanded.[3] Running through

1 The chronology of the English "project," of the French *projet*, the Italian *progetto*, and the Spanish *proyecto* date to the sixteenth century. *Oxford English Dictionary*. See also Joan Thirsk, *Economic Policy and Projects: the Development of a Consumer Society in Early Modern England* (Oxford, 1978), 1–2.

2 Thirsk, *Economic Policy and Projects*. Clayton Roberts, *Schemes and Undertakings: A Study of English Politics in the Seventeenth Century* (Columbus, 1985). Jean-Pierre Boutinet, *Anthropologie du projet* (Paris, 1990). John Cramsie, "Commercial Projects and the Fiscal Policy of James VI and I," *Historical Journal*, 43 (2000), 345–64.

3 *Projektemacher: zur Produktion von Wissen in der Vorform des Scheiterns*, ed. Markus Krajewski (Berlin, 2004). Ulrich Troitzsch, "Erfinder, Forscher und Projektemacher: Der Aufstieg der praktischen Wissenschaften," in *Macht des Wissens: die Entstehung der modernen Wissensgesellschaft*, eds Richard van Dülmen and Sina Rauschenbach (Cologne, 2004), 439–64. Jan Lazardzig, "'Masque der Possibilität': Experiment und Spektakel barocker Projektenmacherei," in *Spektakuläre Experimente: Praktiken der Evidenzproduktion im 17. Jahrhundert*, eds Helmar Schramm and Ludger Schwarte (Berlin, 2006), 176–212. Peter Nausner, *Projektmanagement* (Vienna, 2006). *The Age of Projects*, ed. Maximillian E. Novak (Toronto, 2008). Martin Reuss, "Seeing Like an Engineer: Water Projects and the Mediation of the Incommensurable," *Technology & Culture*, 49 (2008), 531–46. Frédéric Graber, "Du Faiseur de projet au projet régulier dans les Travaux Publics (XVIIIe–XIXe siècles): Pour une histoire des projets," *Revue d'histoire moderne et contemporaine*, 3 (2011), 7–33. Jason Peacey, "Print, Publicity, and Popularity: The Projecting of Sir Balthazar Gerbier, 1642–1662," *Journal of British Studies*, 51 (2012), 284–307. Jessica Ratcliff, "Art to Cheat the Common-Weale: Inventors,

both primary and secondary literature related to projects is the link between the 'project' and the figure of the 'projector.' The latter's negative associations – with rent-seeking, monopolism, expropriation, charlatanry, pettifogging, utopianism, and, above all, failure – may explain why projects have, until recently, received little attention. Perhaps for the same reason, even historians who deal with projects often orient these to more progressive concepts, such as 'improvement.'[4] This sidesteps the criticism of projectors at the cost of neglecting the meaning and practice of projecting in context. Others use 'projector' interchangeably with other identities, or favor alternatives such as 'entrepreneur' or the neologism, 'visioneer.'[5] Few use 'projecting' or the 'projector' as analytical categories.

Krajewski, by contrast, does just that, explicitly comparing the global visionaries of 1900 to the earlier projector, "a nearly forgotten epistemological figure

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Projectors, and Patentees in English Satire, ca. 1630–70," *Technology and Culture*, 53 (2012), 337–65. Koji Yamamoto, "Reformation and the Distrust of the Projector in the Hartlib Circle," *Historical Journal*, 55 (2012), 375–97. Vera Keller, "The 'Framing of a New World:' Sir Balthazar Gerbier's Project for Establishing a New State in America, ca. 1649," *William and Mary Quarterly*, 70 (2013), 147–76. Vera Keller, "Air-Conditioning Jahangir: The 1622 English Great Design, Climate and the Nature of Global Projects," *Configurations*, 21 (2013), 331–67. Koji Yamamoto, "Medicine, Metals and Empire: The Survival of a Chymical Projector in Early Eighteenth-Century London," *British Journal for the History of Science*, 48 (2015), 607–37. Stefan Brakensiek, "Projektemacher: Zum Hintergrund ökonomischen Scheiterns in der Frühen Neuzeit," in *Fiasko-Scheitern in der Frühen Neuzeit: Beiträge zur Kulturgeschichte des Misserfolgs*, eds Stefan Brakensiek and Claudia Claridge (Bielefeld, 2015), 39–50. Frédéric Graber and Martin Giraudeau are in the process of editing a collection to be entitled *Les projets. Une histoire politique. 17e-21e siècles*. Igor Fedyukin is preparing a monograph entitled *The Enterprisers: The Politics of School in Early Modern Russia* about projects and institutions during the reign of Peter I, when the figure of the profiteer or *pribyl'shchiki* emerged, as did the term "project."

4 Richard Henry Drayton, *Nature's Government: Science, Imperial Britain, and the "Improvement" of the World* (New Haven, 2000); and Paul Slack, *The Invention of Improvement: Information and Material Progress in Seventeenth-Century England* (Oxford, 2015).

5 Toby Barnard uses the terms 'projector' and 'improver' interchangeably; e.g. Toby Barnard, *Improving Ireland?: Projectors, Prophets and Profiteers, 1641–1786* (Dublin, 2008), 86 and 87. Jotham Parsons, *Making Money in Sixteenth-Century France: Currency, Culture, and the State* (Ithaca, 2014), uses 'go-getter,' 'projector,' and 'entrepreneurial politician.' The 'projector' makes one appearance in Ayesha Mukherjee, *Penury into Plenty: Dearth and the Making of Knowledge in Early Modern England* (New York, 2015), 175. Mukerji uses the term 'entrepreneur' rather than 'projector' throughout. Chandra Mukerji, *Impossible Engineering: Technology and Territoriality on the Canal du Midi* (Princeton, 2009). W. Patrick McCray, *The Visioneers: How a Group of Elite Scientists Pursued Space Colonies, Nanotechnologies, and a Limitless Future* (Princeton, 2013).

whose impactful tradition reaches from the early modern period to the late Enlightenment."[6] Yet Krajewski also points out that while widespread in early seventeenth-century English, the term 'projector' did not emerge in German until the eighteenth century. Thus seemingly archetypal 'projectors' as Johann Joachim Becher (1635–1682) could not have seen themselves in quite those terms.[7]

A history of early modern projecting cannot make England its yardstick without begging questions. What circumstances gave rise to the label of projector, what purposes did it serve, and how might these peculiarities constrain its historiographical utility? What is at stake in applying the label to figures who did not recognize it? Does our view of a project change if it is the work of a projector rather than an engineer, politician, or gentleman philosopher? We will begin to address these questions by tracing the origins and changing contours of both the 'project' and the 'projector,' with reference to particular examples and to contemporaneous concepts such as improvement.

What Projects Meant

Following the semantic history of the 'project' across early modern European vernaculars confronts the historian with multiple chronologies and flashpoints in the history of projecting in different locales. Nevertheless, it suggests several key shifts in the conception and use of the term.

Etymologically, a 'project' is something thrown forward (Lat. *projicere*). It is tempting to link this to the alchemical step of 'projection:' the casting of a powerfully transformative agent onto a less valuable substance.[8] In fact, however, the term first appeared in the context of architectural drafting.[9] 'Projection' remains a term of art in descriptive geometry today. Sixteenth-century French synonyms included "Modelle," "dessaing," and "pourtraict," and "project" retained its architectural sense in late seventeenth-century dictionaries as well as in Diderot's *Encyclopédie*.[10] In mid-sixteenth century military engineering, a

6 Markus Krajewski, *World Projects: Global Information before World War I*, trans. Charles Marcrum II (Minneapolis, 2014), xiii.

7 For Becher as a projector, see eg. Troitzsch, "Erfinder, Forscher und Projektemacher;" Lazardzig, "'Masque der Possibilität';" and Pamela Smith, *The Business of Alchemy: Science and Culture in the Holy Roman Empire* (Princeton, 1994).

8 Lazardzig, "'Masque der Possibilität.'"

9 Brakensiek, "Projektemacher," 42–3.

10 See e.g. Jean-Pierre Jacquemart, *Architectures Comtoises de la Renaissance, 1525–1636* (Besançon, 2007), 185–8; Graber, "Du Faiseur de projet," 7.

'project' might be a drawing of planned ramparts.[11] In military settings, projects might also refer to battle plans or arrangements of squadrons.[12]

A more conceptual sense of 'project' emerged through analogy with its graphic meaning (as happened with 'plan,' 'plot,' 'design' and 'scheme'). Sir Thomas Smith (1513–1577) described his 1560s account of Tudor government as "a chart or mappe… this being as a proiect or table of a common wealth truely laide before you."[13] This "proiect" was not a plan of action, but by offering a metaphorical and normative image of a commonwealth it suggested, like a mirror for princes, "counsell" for "better administration."[14] Sixty years later, Robert Hayman (1575–1629) reversed the relationship between the "project" and graphic analogy in his proposal to Charles I for a Newfoundland colony. Hayman imagined Columbus approaching potential patrons: "When wise, blessed, happie Columbus proposed the proiect of his supposed Westerne Neweland to the Princes and States of his time, he delivered them Platts to demonstrate, and prove his supposition." Here, 'project' denoted a concept, with visual "Platts" adduced in its support. Hayman compared his own written plan to a map of current, claimed and planned possessions: "a Platt of all your kingdomes, both possesst, pretended, and intended."[15]

While we think of projects conceptually today, the term first described a paper technology. Even as its primary meaning shifted, the project remained associated with a drafted image or written plan. Literally and figuratively, the project cast the future as an empty sheet. Describing his project for a new state in the Caribbean to Samuel Hartlib in 1648, Sir Balthasar Gerbier argued (quoting Richelieu) that "it would prove more facile to forme a neew World. then to reform the Old;" a "new world" could be "composed and rulled as a Musike booke."[16] For Cromwellian projectors like William Petty, similarly, Ireland was "'a white paper' or 'clay on the potter's wheel,' awaiting a distinctive impress."[17] Such visions of wholesale (re)creation evince a distinct attitude to space, time, and scales of action. While the contemporaneous idea of "improvement" was,

11 Charles van den Heuvel, *"Papiere bolwercken": De Introductie van de Italiaanse stede- en Vestingbouw in de Nederlanden (1540–1609) en het Gebruik van Tekeningen* (Alphen aan den Rijn, 1991), 99.

12 For a late example, François Jean de Graindorge d'Orgeville de Mésnil-Durand, *Projet d'un ordre françois en tactique ou la phalange coupée et doublée* (Paris, 1755).

13 Thomas Smith, *De republica Anglorum: The Maner of Gouernement or Policie of the Realme of England* (London, 1583), 118.

14 Ibid.

15 Robert Hayman, "A Proposition of Profitt & Honor," British Library MS Egerton 2541, 165.

16 Keller, "The 'Framing of a New World,'" 154.

17 Toby Barnard, *Improving Ireland?*, 76.

as Paul Slack has argued, "piece-meal" and gradual, projects were sweeping and rapid – as witness plans of vast geopolitical ambition such as the "great design" or "grand project" of universal monarchy.[18]

Some ducked the label of "projector" by strategically retrenching the transformations proposed. Walter Blith hoped not to be "Accompted, or at least not Scandalized as a Projector," a charge that the exponential claims of his title page invited: *The English Improver Improved ... Discovering the Improveableness of All Lands: Some to be Under a Double and Treble Others Under a Five or Six Fould. And Many Under a Tenn Fould, Yea Some Under a Twenty Fould Improvement.* He backtracked dramatically in the book, asserting that even "a double Improvement" should be "worth acceptance"; in fact, "to me it hath been worth Respect and Imitation, when I could but Advance any Land, one half or third part."[19] Gabriel Plattes performed a similar move in *Macaria* and related tracts, initially comparing his discovery to the plough or even agriculture itself, only to describe modest modifications in recycling household waste to provide dowries and pensions for thrifty maids and widows.[20] The inconsistency Slack sees in Petty's Interregnum projects – interpreted as tension between pragmatism and millenarianism – may reflect a similar rhetorical posture.[21] Petty, after all, spent much of the Restoration pursuing "the transmutation of the Irish into

18 Slack, *Invention of Improvement*, 108. John T. O'Connor, "Politique et utopie au début du XVIIe siècle: Le Grand Dessein de Henri IV et de Sully," *XVII siècle*, 174 (1992), 33–42. Carla Gardina Pestana, "English Character and the Fiasco of the Western Design," *Early American Studies*, 3 (2005), 1–31. Anonymous, *A sudden Answer to a Suddaine Moderatour; Who, Directed by Reason and No More, Expects Suddaine Peace, or Certaine Ruine* (London, 1642), 12: "To dèthrone the Lord Jesus Christ, and to advance Antichrist... is the great designe, Trade and project the World is now driving on." Gabriel Naudé, *Science des Princes ou Considérations politiques sur les coups d'estat* (Paris, 1673), 616: "le projet qu'il avoit dressé d'une Monarchie universelle." Louis de Monpersan, *La Politique des Jésuites* (London, 1688), 75: "le grand projet de la Monarchie Universelle."

19 Walter Blith, *The English Improver Improved or the Survey of Husbandry Surveyed Discovering the Improveableness of All Lands: Some to be Under a Double and Treble Others Under a Five or Six Fould. And Many Under a Tenn Fould, Yea Some Under a Twenty Fould Improvement* (London, 1652), 172–3.

20 Gabriel Plattes, *A Description of the Famous Kingdome of Macaria* (London, 1641), 11. Plattes, *A Discovery of Infinite Treasvre, Hidden Since the Worlds Beginning* (London, 1639), [C3r]. Plattes, *The Profitable Intelligencer, Communicating His Knowledge for the Generall Good of the Common-Wealth and All Posterity* (London, 1644), [A2r-A3v]. Yamamoto, "Reformation," 384.

21 Slack, *Invention of Improvement*, 101.

English" – a transformation *par excellence*.[22] Yet, even after completing the Down Survey – a project once thought impossible – William Petty insisted that "I do not appear a projector to shark for my necessities nor because the newness of my thoughts hath intoxicated me;" he was, rather, a "sober" suitor concerned with "feasibility and usefulness."[23]

Denying the limitations of circumstance was essential to the identity of the seventeenth-century projector. This often aligned projects with centralizing movements on a national or supra-national scale; a characteristic type of early modern project, the "transplantation" of a trade, commodity, or even population from one region or another, at times implied the elimination of local peculiarity. Such exercises cut across climatological assumptions about technology and character, administrative distinctions between colony and metropole, and even boundaries between species. At the same time, state-oriented projects persisted amid the proliferation of public or civil society initiatives in the eighteenth century. Likewise, the boundary-crossing on which projects depended across the period should not obscure their capacity to reinforce hierarchies of race and status and to rationalize the operations of empire.

Nor should the worldliness of projects blind us to their frequent mixture of spiritual with material aspirations. For the Hartlibians, according to Slack, improvement "had a coherent purpose, and its impact was cumulative, but it was endless."[24] It thus resembled our conception of progress. Yet Hartlib and many of his millenarian associates aspired precisely to the "perfection" or completion of their spiritual, epistemic, and political projects, especially through the coming reign of Christ, in ways incompatible with progress as we understand it.[25] While Yamamoto has stressed their defense against the negative associations of the "project," Hartlib and his associates also used the term themselves, including on one desiderata list: "To Exercise et study Piety by way of Projecting."[26]

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22 Ted McCormick, "Alchemy in the Political Arithmetic of Sir William Petty (1623–1687)," *Studies in History and Philosophy of Science*, 37 (2006), 290–307.

23 *Calendar of the Manuscripts of the Marquis of Ormonde K.P. Preserved at Kilkenny Castle*, New Series, 8 vols. (London, 1902–1920), 3: 11.

24 Slack, *Invention of Improvement*, 108.

25 Slack also notes the millenarian expectations of Hartlib and his associates. Ibid., 100–1. Similar hopes informed many eighteenth-century projects. Sarah Lloyd, *Charity and Poverty in England, c.1680–1720: Wild and Visionary Schemes* (Manchester, 2009), 1.

26 Yamamoto, "Reformation." Samuel Hartlib and John Dury, *Desiderata Theologiae*, British Library MS Sloane 638, 95r.

Sixteenth-Century Politics and the Appearance of the Projector

A sense of projects as strategies emerged during the sixteenth-century wars of religion. In sixteenth-century France, a 'projet' might refer to anything from a battle plan to a scheme to restore mankind to Adamic innocence.[27] French newspapers reported military and diplomatic projects; as in other contexts, so here project, like 'design,' applied both to drawn or written plans and to conceptual schemes.[28] Italian newspapers and works of contemporary history soon analyzed political plans and stratagems as projects.[29]

It was in the context of confessional warfare that projects took on more negative associations in English. Spanish efforts against Queen Elizabeth, for instance, were "attempts, plots, proiects, & trayterous stratagems."[30] While fortifications or mobilizations remained projects, the term acquired a new referent: astounding, secret inventions – such as those of Pompeo Targone, the legendary engineer employed by Ambrogio Spinola, commander of the Spanish forces.[31] While Targone might label a plan (re-engineering Rome's water supply, for example) as a report or 'relation' (*relazione*), Spinola's plans appeared in English as 'projects.'[32] Targone's military work made news, even giv-

27 E.g., Jean le Frère de Laval, *La vraye et entiere histoire des troubles et guerres civiles* (Paris, 1576), 13, 100, 362, and 431.

28 *Le Mercure François... contenant ce qui s'est passé en l'Annee MDCXXV*, 24 vols. (Paris, 1611–1648), 11: 298. *Le Proiect des Principaux Articles de la Paix* (Paris, 1614). This is precisely how the term also appeared in Dutch. States of Holland, *Proiect t'samen ghevoegt uyt de advisen vande leden* (N.A., 1630). States of Holland, *Project van de E. E. groot mogende heeren Staten van Hollandt: in wat voegen de selve van meeninghe zijn hare regeeringe te formeren* (N.A.: 1650). André Favyn, *Histoire de Navarre* (Paris, 1612), 596, 935, and 1238.

29 Vittorio Siri, *Del Mercurio: overo historia de' correnti tempi*, 23 vols. (Casale, Paris, Florence, 1644–1682), 2:12, 228, 241, 256, 276, 351, 407 and 723. Battista Nani, *Historia della Republica Veneta* (Venice, 1663), 15, 17, 101, 181, 299, 327, 331, 396, and 502. Galeazzo Gualdo Priorato, *Historia delle Revolutioni di Francia* (Cologne, 1670), 460.

30 Robert Pricket, *The Lord Coke His Speech and Charge VVith a Discouerie of the Abuses and Corruption of Officers* (London, 1607), 17. Thomas Jackson, *Judah Must Into Captivitie; Six Sermons on Jerem. 7.16* (London, 1622), 97.

31 Richard Knolles, *The Generall Historie of the Turkes* (London, 1603), 793 refers to the "proiect of all their fortifications, which wee haue receiued of most expert and skilfull men." Sir John Smythe, *Certen*] *Instruct*[*ions, Obseruati*]*ons and Orders Militarie,* (London, 1594), 60: "proiect of squadrons."

32 Vatican library, Barb. lat. 4340, *Relatione di Pompeo Targone sopra le città, fortezze e porti da lui visitati d'Ancona, Fano, Rimini, Cervia, Ravenna e Ferrara*, discussed in Lucio Gambi, "Un Progetto inedito del Seicento per la sistemazione del Marecchia inferiore e del porto

ing rise to an international newsletter.[33] Ben Jonson reflected on this in *Volpone* (1605–1606): responding to reports in Venice of "a Whale discover'd in the river, As high as Woolwich," sent to subvert the fleet, Sir Politick Would-be – a hapless patron of projects himself – is sure "It was either sent from Spaine, or the Arch-duke, Spinola's Whale, upon my life, my credit; Will they not leave these proiects?"[34]

The character of Sir Politick – perhaps based on Henry Wotton, English ambassador to Venice – reflected the culture of travel and intelligence in which international projects, and rumors about them, flourished.[35] Wotton himself helped foment a plan uniting opponents of Spain, known in England as the 'Project of Venice.'[36] This project dissolved, but others were soon hatched to forestall Spain's quest for universal monarchy. One 1625 project by John Oventrout (considered but rejected by influential politicians) called for the incitement of mutiny in Peru by sending "preachers thither and with them some thousands of Catechisms, which in a short tyme, would make dissension concerning Religion amongst them."[37]

Suspicion swirled around projects born of confessional conflict. Jonson's 1625 *Staple of Newes* reported Spinola as the "Generall of the Jesuits," the "onely Enginers of Christendom," who gave him an "Engine" to "winde himselfe with, up, into the Moone." He was rumored to have a "new Proiect: To bring an army ouer in corke-shooes" with "fourescore pieces of ordinance, Mounted upon cork-carriages, with bladders, In stead of wheeles."[38] This perhaps referred to Targone's 1621 scheme to deploy floating batteries against the Huguenots at La Rochelle. Jonson detailed other inventions at Spinola's fingertips, including a burning glass found in "Galileos study" that could "fire any fleet that's out at

riminese," in *Studi riminesi e bibliografici in onore di Carlo Lucchesi*, eds Carlo Alberto Balducci and Augusto Campana (Rimini, 1952), 101–6.

33 Brendan Dooley, "Making it Present," in *The Dissemination of News and the Emergence of Contemporaneity in Early Modern Europe*, ed. Brendan Dooley (Farnham, 2010), 95–114; 106–14.

34 Ben Jonson, *Volpone* (London, 1607), [D2v].

35 Mark Netzloff, "Jonson's *Volpone* and the Information Economy of Anglo-Venetian Travel and Intelligence," in *Mediterranean Identities in the Premodern Era: Entrepôts, Islands, Empires*, eds John Watkins and Kathryn L. Reyerson (Farnham, 2014), 73–89.

36 Anne Denis, "La République de Venise (1608–1610): l'Espoire et l'Illusion d'une nouvelle Genève," *Albineana*, 18 (2006), 409–22; 415.

37 British Library MS Egerton 2541, 57. George Carew, Earl of Totness, notes: "My opinion (for many reasons) is that sundry places in the West Indies is more useful for us then this Proiect."

38 Ben Jonson, *The Staple of Newes* (London, 1631), 39.

sea." The credulous Pennyboy Junior, fearing Spinola's "strengths will be unresistible," asks if there is any "news against him"; he is relieved to hear of the "invisible eel" of "Cornelius-Son" for sinking ships, a reference to Cornelis Drebbel's newly invented submarine. Projects seemed to drive a confessional arms race.[39]

The breathless speculation that Jonson evoked reflected real news-mongering. Spinola was expected to invade England in 1627, and in 1639–40 hysterical pamphlets warned of a new "Spanish Armado" under Spinola (now dead), armed with elephants and bombs of wildfire.[40] Even wild rumors reflected real developments; Spinola did employ innovative technologies; his relative, Gastone Spinola, had acquired an impressive mirror; and it was as potential instruments of war that the first telescopes came to Spinola's attention.[41] The English crown developed a 'project' using Drebbel's submarine to interrupt Spain's Indian Ocean trade, and Drebbel's torpedoes were deployed (disastrously) defending the Huguenots at the Isle of Ré in 1627.[42]

In England – putative target of so many projects – the 'projector' loomed behind malevolent inventions of all kinds. First appearing in English in 1596, 'projector' has been included by Peter Burke in a new early modern European vocabulary for envisioning a constructible future.[43] Slack argues that in England after "1580 most projectors and patentees were no longer inventors and skilled craftsmen but courtiers and speculators, the 'blood-suckers of the commonwealth.'"[44] However, rather than a change in the social basis of projecting, one might see a new discourse of projectors emerging – one that sparked parliamentary attacks on figures labelled "projectors," and on corruption generally, bringing down Sir Francis Bacon.[45] Answering such attacks

39 Ibid., 40.

40 David Randall, "Joseph Mead, Novellante: News, Sociability, and Credibility in Early Stuart England," *Journal of British Studies*, 45 (2006), 293–312, 309. Noah Millstone, *Manuscript Circulation and the Invention of Politics in Early Stuart England* (Cambridge, 2016), 307. John Rushworth, ed., "An Account of the Spanish Armado this present Year 1639, but for what Invasion not yet known," *Historical Collections*, 8 vols. (London, 1721–1722), 3:973 refers to an invasion by "Marquess Spinola the Younger."

41 Eileen Reeves, *Galileo's Glassworks: The Telescope and the Mirror* (Cambridge, MA, 2008), 151–2.

42 Keller, "Air-Conditioning Jahangir."

43 Peter Burke, "Foreward: The History of the Future, 1350–2000," in *The Uses of the Future in Early Modern Europe*, eds Andrea Brady and Emily Butterworth (New York, 2010), ix–xx; xii.

44 Slack, *Invention of Improvement*, 60.

45 Linda Levy Peck, *Court Patronage and Corruption in Early Stuart England* (London, 1993), 185–7 and Vera Keller, *Knowledge and the Public Interest, 1575–1725* (Cambridge, 2015), 133–4.

meant asserting the public benefits of projecting. Projectors routinely claimed to serve private interests (their own or the sovereign's) and the public simultaneously. Hayman, for example, claimed his proposal would advance "your Majesties private, your subiects publique unexpressible profitt."[46] Professions of public benefit became standard in written proposals.

The emergence of a genre of project that linked public and private benefits contributed to English economic discourse. In England, the "semipublic discourse" of Elizabethan advisors "circulated ... in manuscript, within circles close to royal policymaking, and ... eventually took root in the memoirs of the projectors."[47] No similar discourse "crystallized" in France.[48] The projector's seventeenth-century appearance as a public figure – as the author of proposals and the subject of pamphlets and plays – offered a unique platform for debating the role of projects in the commonwealth.[49] Projects offered a language and a focus for political and economic analysis, as politicians and the public attempted to trace lines of interest and forecast how they might interact with their own projections.

Projecting and Experiment in Seventeenth-Century England

The distinctly English construction of the projector substantiates contemporary perceptions that projects met with more ridicule in England than elsewhere. The colonial promoter Robert Johnson lamented "the blind diffidence of our English natures, which laugh to scorne the name of *Virginia*, and all other new proiects, bee they neuer so probable, and will not beleeue till wee see the effects."[50] John Dury and Samuel Hartlib envisioned their planned Office of Address as a place where seemingly "ridiculous whimsies & projects" would be welcomed.[51] Thomas Sprat complained that Inventors "are wont to

46 Hayman, "A Proposition," 169.

47 Parsons, *Making Money*, 63–4.

48 Ibid.

49 Koji Yamamoto, *Distrust and Innovation: Reconstructing the Culture of 'Projector' in Seventeenth-Century England* (Ph.D. dissertation, York University, 2010) and Ratcliff, "Art to Cheat the Common-Weale."

50 Robert Johnson, *Nova Britannia Offering Most Excellent Fruites by Planting in Virginia* (London, 1609), 7. See, e.g., Councel for Virginia, *A True Declaration of the Estate of the Colonie in Virginia vvith a Confutation of Such Scandalous Reports as Haue Tended to the Disgrace of So Worthy an Enterprise* (London, 1610), 37 and 62.

51 Cited in Keller, *Knowledge and the Public Interest*, 216.

be defam'd" with the titles of "Cheats and Projectors."[52] Reiterating his 1688 plan for a committee on projects, John Evelyn proposed in 1696 that new ideas be considered "without Reproch as Projectures, or turning the Unsuccessful Proposer to Ridicule, by a Barbarity without Example, no where countenanc'd but in this Nation."[53]

The projector belonged to no specific trade or profession and thus faced hostility from those who did. Defenses of projecting, accordingly, touted the advantages of an outsider's perspective on conventional forms of expertise. Thus Robert Boyle built on Baconian neologisms – including 'optatives' (hoped-for abilities in natural magic verging on the impossible) – to argue that the experimental philosopher might apply his expansive knowledge to the future improvement of particular trades.[54] Optatives might seem like "Chymerical Projects," but were for Boyle "rather very difficult, than absolutely impossible, to be obtain'd."[55] "Deficiencies and Inconviencies," by comparison, evinced "a more easily obtainable degree of Perfection [than the optatives]."[56] While tradesmen could identify deficiencies, delineating optatives required the ambition and perspective of an experimental philosopher undaunted by seeming impossibilities. Sprat's *History of the Royal Society* similarly defended the pursuit of impossibilities, a target of mockery for the group's critics.[57] It is "one of the greatest powers of the true and unwearied Experimenter, that he often rescues things, from the jaws of those dreadful Monsters, Improbability and Impossibility."[58]

52 Thomas Sprat, *The History of the Royal Society of London for the Improving of Natural Knowledge* (London, 1667), 402.

53 John Evelyn, British Library MS Additional 78299, 103v. In 1688, Evelyn had suggested forming "a standing committee" to "receive, and make Report of, all Projects, convertible to the publique benefit without ridiculing or discouraging the Proposers." Ibid., 53r.

54 Robert Boyle, "The Goods of Mankind may be much encreased by the Naturalist's Insight into Trades," *Some Considerations Touching the Usefulness of Experimental Naturall Philosophy... the Second Tome, Containing the Later Section of the Second Part* (Oxford, 1671), 10. Keller, *Knowledge and the Public Interest*, 149, on Bacon's *optativa*. Ibid., 330, on Boyle's unique later use of *optativa*.

55 Boyle, *Some Considerations*, 24.

56 Ibid.

57 Dorothy Stimson, "Ballad of Gresham Colledge," *Isis*, 18 (1932), 103–17; Rob Iliffe, "'Meteorologies and Extravagant Speculations': The Future Legends of Early Modern English Natural Philosophy," in Brady and Butterworth, *The Uses of the Future*, 215–33.

58 Sprat, *History of the Royal Society*, 194.

Eighteenth-century Projects: Interest, Knowledge, Progress and Risk

Critics cast early seventeenth-century projectors as the creatures of a venal and grasping court. By the turn of the eighteenth century, however, projecting was seen as a far more diverse and socially diffuse phenomenon. In his 1697 *Essay on Projects*, Daniel Defoe famously christened his era "*The Projecting Age*."[59] The probabilism of projected futures became naturalized and spread as risk, a part of life that everyone had to negotiate. One proposal in the Hartlib Papers contended that the English taste for participating in "Lotteries" with little chance of success revealed their tendency "to be tampering with contingencies." This "active humor" might be diverted to the pursuit of "hard, but honourable Projects," especially if those "novel Projects" could be "made lushious with probability of profit."[60] The possibility of personal profit could motivate risk-taking that would benefit the entire country. The connections projects posited between private profits, the public interest, and even piety helped make risk socially acceptable.[61] As those linkages became common currency, so did the concept and practice of projecting.

Defoe's essay has anchored engagements with projecting across the disciplines.[62] While he acknowledged the "new Contrivances, Engines, and Projects to get Money" bursting calamitously forth all around him, however, and traced their origins to recent political history, he made clear that "The History of Projects" began with Noah's Ark.[63] Projecting seemed as old as human history, bound to no particular set of motives, interests, or institutions. Defoe's examples spanned myriad endeavours: "Matters of Negoce, and Methods of Civil Polity," financial schemes and political "undertakings," military "Engines" and all manner of technical "Inventions" and "Improvements" – so many that he omitted the entire category of "Arts and Sciences" for reasons of space.[64] The

59 Daniel Defoe, *An Essay Upon Projects* (London, 1697), 1.

60 Mark Greengrass, M. Leslie and M. Hannon, eds., *The Hartlib Papers*. Published by HRI Online Publications, Sheffield (2013). Available at: <http://www.hrionline.ac.uk/hartlib>. "Memo in Hartlib's Hand on Inventions and Finance," 8/64/1A.

61 Thomas Leng, *Benjamin Worsley (1618–1677): Trade, Interest and the Spirit in Revolutionary England* (Rochester, NY, 2008) and Koji Yamamoto, "Piety, Profit and Public Service in the Financial Revolution," *English Historical Review*, 126 (2011), 806–34.

62 See for example Krajewski, *Projektemacher*; Nausner, *Projektmanagement*; and Novak, *The Age of Projects*.

63 Defoe, *An Essay upon Projects*, 4, 19–21. On Noah's Ark as the first project, Lazardzig, "'Masque der Possibilität.'"

64 Defoe, *An Essay upon Projects*, 1–4, 8–9, 19–20.

best projectors "built on the honest Basis of Ingenuity and Improvement," aligning private "Advantage" with "Circumstances of Publick Benefit" including "the Improvement of Trade, and Employment of the Poor, and the Circulation and Increase of the Publick Stock of the Kingdom."[65] Projecting was legitimately self-interested and public-spirited. But it was not altruistic; "fair pretences of fine discoveries, new Inventions, Engines," and so on, still manipulated "the Fancies of Credulous People."[66]

Pondering the grey area between thievery and "Invention upon honest foundations," Defoe located many projects in a morally ambiguous zone. Even "Projects fram'd by subtle Heads, with a sort of *Deceptio Visus*, and *Legerdemain*, to bring People to run needless and unusual hazards," had been sufficiently "sanctifi'd" by occasional successes. Defoe instanced Sir William Phips's quixotic 1686 voyage to recover sunken Spanish gold from the bottom of the Atlantic, which would have been obvious folly – had it not, fantastically, succeeded.[67] Even so signal a failure as the Tower of Babel was a "Demonstration of the vast Knowledge of that Infant-Age of the World." As with more recent projects, Defoe mischievously suggested, its only flaw was that it hadn't worked.[68]

Half a century later, Samuel Johnson made similar points with a series of paired "Projectors": Catiline and Caesar (an opposition borrowed from Machiavelli), Xerxes and Alexander the Great, medieval crusaders and Columbus, Charles XII of Sweden and Peter the Great. In each case, fame bore witness to the grandeur of projects, while the juxtaposition of mutual antagonists or precursors and followers drew attention to their perilous nature and mixed results.[69] Johnson also sought to "consiliate" his readers to projectors of a humbler sort, "who are searching out new powers of nature, or contriving new works of art" but whose efforts were met with "universal contempt." Projectors who despised "vulgar attainments" were ridiculed for outlandish undertakings, but "the folly of Projection is very seldom the folly of a fool; it is commonly the ebullition of a capacious mind, crouded with variety of knowledge, and heated with intenseness of thought; it proceeds often from the consciousness of un-

65 Ibid., 7–9.
66 Ibid., 11–3, 30–1.
67 Ibid., 15–6.
68 Ibid., 21.
69 Samuel Johnson, *The Adventurer*, No. 99 (Tuesday, 16 October 1753), reprinted in *The Works of Samuel Johnson, a New Edition, in Twelve Volumes*, ed. Arthur Murphy (London, 1823), 3:218–24.

common powers, from the confidence of those who, having done much, are easily persuaded that they can do more."[70]

Johnson's examples blurred the boundaries between today's common sense and yesterday's fantasy: the mechanic John Rowley, who "completed the Orrery" and then "attempted the perpetual motion," and Robert Boyle, who, having "exhausted the secrets of vulgar chemistry ... turned his thoughts to the work of transmutation." Such projectors united "extent of knowledge, and greatness of design," so that not only their successes but their failures too reflected venerable qualities. To enjoy the former, the world must tolerate the latter. Johnson offered perhaps the pithiest and widest definition of the project ever penned: "Whatever is attempted without previous certainty of success."[71]

Connoisseurs of Projects

The eighteenth century saw the explicit theorization of projects and projectors long familiar in England take root in Europe. In the 1720s, following the bursting of the South Sea Bubble, the projector emerged in German, French, and Dutch (*Projektemacher, projetteur*, and *projecteur*); the French synonyms *faiseur des projets* or *homme à projets* followed, along with *proyectista* in Spanish – although related figures such as the Spanish *arbitrista* (flourishing from 1615–1625, and named after expedients, *arbitrios*, for reforming the state) or the French *donneur d'avis* (proposers of new tax farms to the king's Council in the 1640s and '50s) had appeared earlier.[72]

70 Ibid, 222–3.

71 Ibid., 223.

72 Krajewski, "Einleitung," 11. "De Grote Projecteur der Koopmanschap van Wind" appears in one of the satirical engravings of *Het Grote Tafereel der Dwaasheid* (1720). "Windvang," a "Projecteur," also appears in Govert van Mater, *Het dolhuis der actionisten: Kluchtspel* (NA, 1720). Fortunato Bartolomeo de Felice, ed., "Projet," in *Encylopédie ou dictionnaire universel raissonné des connoissances humaines*, 58 vols. (Yverdon, 1770–1780), 35: 341–55; 342. See Antonio de Capmany y de Montpalau, *Arte de traducir el idioma francés al catellano* (Madrid, 1776), 43, "*Homme à projets.* Hombre proyectista." Jean Vilar Berrogain, *Literatura y economía: La figura satírica del arbitrista en el Siglo de Oro* (Madrid, 1973). Roland Mousnier, *The Institutions of France Under the Absolute Monarchy, 1598–1789*, trans. Arthur Goldhammer, 2 vols. (Chicago, 1984), 2: 66. "Projector" was defined as a "faiseur de Projets" or as "un donneur d'Avis" in Abel Boyer, *Dictionnaire royal françois-anglois* (The Hague, 1702), [O002]. Marcus Sandl, "Development as Possibility: Risk and Chance in the Cameralist Discourse," in *Economic Growth and the Origins of Modern Political Economy: Economic Reasons of State, 1500–2000*, ed. Philipp Rössner (New York, 2016), 139–55.

As the figure of the projector became European, so did a discourse of projecting designed to defend the projector against the abuse of the common sort. Cameralists, sharing an "epistemology of the possible," distinguished themselves as connoisseurs of projects, as had English gentlemen natural philosophers before them, and as French *philosophes* would later in the century.[73] Paul Jacob Marperger (1656–1730) defined the project in the 1720s as

> an either verbal or written, well-intended, brief proposal showing how in some portion or other of human society and of the body of the *res publica*, one thing or another could be improved in practice far beyond the current method to the benefit of the commonweal, in the sciences, household management, mechanics, business, and cameral affairs (*Physicis, Oeconomicis, Mechanicis, Commercalibus* [sic] *&* *Cameralibus* &c.)[74]

The seeming absurdity of a proposal should not condemn it outright; Marperger offered the common example of Columbus, whose "projected discovery of America" so many courts had rejected.[75] Like Boyle, Marperger suggested that the solution lay in taking decisions about projects out of the hands of unlearned and risk-averse individuals. He proposed new institutions, including a "physico-mechanical" college and a college of commerce comprising statesmen, publicists, men of affairs, and clever craftsmen. Examining projects would require the pooled expertise of these different sorts of men.

Some cameralists even tried to recoup the term *Projectmacher* as an honorable title.[76] Johann Friedrich von Meidinger (1726–1777) defended a list of "patriots" whom the people ("Pöbel") mocked as projectors ("Projecten-Macher"),

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73 Ibid.

74 Paul Jacob Marperger, "Von Projecten und Projectenmachern, deroselben Nutzen und Schaden, und was bey Examinirung, Acceptirung, and Rejicirung derselben zu beobachten sey," *Auserlesene kleine Schriften* (Leipzig, 1733), 370–6; 370. "Ein Project ist ein kürzlich entweder mündlich oder schrifttlich auffgesetzter wohlgemeynter unmaßgeblicher Vortrag, wie in diesen oder jenem Stand der Menschlichen Societät und des Corporis Reipublicae, ein oder das andere in Praxi könte verbessert, zum gemeinen Nutzen weit erträglicher als der bißherige Modus darinn gewesen ist, eingeführet, in Physicis, Oeconomicis, Mechanicis, Commercalibus [sic] & Cameralibus &c. mehr Vortheil geschaffet..."

75 Ibid., 372; "seiner meditirten und projectirten Entdeckung Americae."

76 Georg Heinrich Zinke, "Vorrede, worinnen von Projecten und Projecten-Machern gehandelt wird," in *Peter Kretzschmers, nunmehrigen Haußvaters im Leipziger Waysen -und Zucht-Hause, Oeconomische Vorschläge* (Leipzig, 1746), 5–48. Johann Heinrich Ludwig Bergius, ed., "Project. Projectmacher," *Polizey und Cameralmagazin*, 9 vols., (Vienna, 1789–1791), 7: 284–93; 285, "ehrwürdige Benennung."

not recognizing how they benefitted the polity.[77] "All men are projectors," declared Johann Heinrich Gottlob von Justi (1717–1771), for a "project" was simply "a thorough plan for a particular undertaking advancing our own or others' temporal happiness." Happiness had served to reconceptualize the public good beginning in Restoration England, and it proved central to Justi's conception not only of projects, but also of civil society itself.[78]

Connoisseurship regarding projects reached new heights in Diderot's *Encyclopédie* and its continuation in the Yverdon *Encyclopédie* of Fortunato Bartolomeo de Felice (1723–1789). The article in the *Encyclopédie* on "Projet" distinguished between a plan and a design: "a plan or an arrangement of means for executing a design; the design is that which one wishes to execute." The two also differed aesthetically. "One says ordinarily that projects are beautiful and that designs are great. The beauty of projects depends on their order and magnificence. The grandeur of designs depends upon the benefit and the glory they can procure."[79] Though some used "project" and "design" as synonyms, those enjoying "a refined and delicate taste (*le goût fin & délicat*)" sensed distinctions. One such connoisseur felt that a "project" aimed at the future and was more vague, while the more specific "design" applied to the present.[80]

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77 Johann Friedrich von Meidinger, *Patriotische Gedanken über das zerrüttete Münzwesen und die Einrichtung einer gesetzmäßigen Creis-Münz-Stätte* (Würzburg, Nuremberg and Prague, 1765), 27–8.

78 Johann Heinrich Gottlob von Justi, "Nachricht von einem sonderbaren Projectmacher, nebst einigen Gedanken von Projecten und Projectmachen," in *Neue Wahrheiten zum Vortheil der Naturkunde und des gesellschaftlichen Lebens der Menschen*, 12 vols. (Leipzig, 1754–1758), 5: 536–60. "Alle Menschen sind Projectmacher... Meines Erachtens versteht man unter einem Project einen ausführlichen Entwurf eines gewissen Unternehmens, wodurch unsere eigene oder anderer Menschen zeitliche Glückseligkeit befördert werden soll." On happiness in England, Craig Muldrew, "From Commonwealth to Public Opulence: The Redefinition of Wealth and Government in Early Modern Britain," in *Remaking English Society: Social Relations and Social Change in Early Modern England*, eds Steve Hindle, Alexandra Shepard and John Walter (Woodbridge, 2013), 323.

79 Denis Diderot, ed., "Projet," *Encyclopédie*, 28 vols. (Paris, 1751–1772), 13: 440–1. "Le projet est un plan, ou un arrangement de moyens, pour l'exécution d'un dessein: le dessein est ce qu'on veut exécuter. On dit ordinairement des projets, qu'ils sont beaux; des desseins, qu'ils sont grands."

80 Denis Diderot, ed., "Projet," 13:441. "Il lui semble que le projet regarde alors quelque chose de plus éloigné; et le dessein quelque chose de plus près. On fait des projets pour l'avenir: on forme des desseins pour le tems présent. Le premier est plus vague; l'autre est plus déterminé." The reference is to Gabriel Girard, *Synonymes François* (Amsterdam, 1748), 193–4.

In his encyclopedia, de Felice added a second, much lengthier essay on projects, originally published by the German-Bernese Georg Ludwig Schmidt d'Avenstein (1720–1805) in 1760.[81] He defined a project as "a plan arranged to increase our happiness or those of others; a plan which shows the path for arriving at this happiness, and for removing the obstacles which inhibit us."[82] He placed it within a time frame of continual progress: "the arts and sciences continually approach perfection, without perhaps ever reaching it."[83] He also defended the project against "l'opinion vulgaire." Nothing leads more certainly to mediocrity than an attachment to old routines. Bacon recognized that, in order to achieve greatness, it was necessary to follow novel paths that might appear ridiculous and extravagant to superficial spirits.[84] Enlightenment itself was a project; one could not imagine the *philosophes*, "*les esprits à systeme*," other than as "*faiseurs des projets*" for the perfection of knowledge.

Schmidt d'Avenstein identified a host of projects across the spectrum of human activity that nevertheless shared certain distinguishing features. Unsurprisingly, all his projectors were men. The projector had always been gendered male; the exceptional "Lady Projectress" of Ben Jonson's *The Divell is an Asse* (1616), a comedic figure, proves the rule. For Schmidt d'Avenstein, however, projectors could come from any region and embrace any religion. Indeed, since what distinguished projectors was the effect of their efforts on large groups of people, religions themselves – engines of misery or happiness – might be projects: Schmidt d'Avenstein named Zoroaster's book of Zend one of the "most beautiful projects" of antiquity. Confucius' religion ensured the happiness of a populous and enlightened nation. Schmidt d'Avenstein dismissed various sovereigns' attempts at universal monarchy, however, as "designed to produce great revolutions, more for the sake of the sovereign's grandeur than for the happiness of the people." Better were projects in finances, policy, arts, and commerce. "Happy was the land" where the "simple citizen" dared to suggest advantageous designs, as in the case of the obscure "Hartlieb," credited with English agricultural advance.[85]

Schmidt d'Avenstein emphasized the unpredictable intersection of projects with other events; Colbert had intended to advance his own state through arts

81 de Felice, *Encyclopédie*, s.v. "Projet," 35: 341–55. Georg Ludwig Schmidt d'Avenstein, "Des Projets," *Traités sur divers sujets intéressans de Politique et de Morale* (Paris, 1760), 103–46.

82 de Felice, *Encyclopédie*, s.v. "Projet," 341–2; "un plan dressé pour augmenter notre bonheur ou celui des autres; plan qui montre le chemin pour arriver à ce bonheur, & pour lever les obstacles qui nous arrêtent."

83 Ibid., 342.

84 Ibid.

85 Ibid., 355 and 348.

& commerce, yet the revocation of the Edict of Nantes inadvertently spread abroad the seed he had intended for the soil of France, to the benefit of all.[86] Unforeseen beneficial outcomes could excuse flawed motivations. Although extreme ambition (*ambition démesurée*) inspired overseas colonies, no project was more "beautiful" than that of gathering together peoples dispersed in "the horror of the American forests."[87] He also weighed the ramifications not only of successful projects, but also of those that had failed or never been attempted. If English projects to destroy Spanish shipping routes in the Americas had succeeded, the balance of power would have tipped in favor of a proud and isolated nation ("d'un peuple fier & isolé"), the English, who likely would have abused its advantage.[88] The most dangerous project for Europe, however, was that of Sébastien le Prestre, Maréchal de Vauban (1633–1707), military engineer under Louis XIV, known in England as the "French Petty" for his statistical projections of population growth.[89] Voltaire saw Vauban as "the best of citizens, a man always occupied by projects, some useful, others impractical, but all unique."[90] Schimdt d'Avenstein took exception to Vauban's proposals for establishing American monarchies, plans Vauban had included in a vast collection of unfulfilled projects.[91] Transplanting arts and manufactures to the new world would free its inhabitants from dependence on Europe, and perhaps plunge Europe itself into barbarity, Schmidt d'Avenstein feared.

Projectors were responsible for all great changes. They could not predict the outcomes of their actions, but perhaps the upheaval they generated was as necessary to the moral system of the universe as hurricanes and storms were to nature.[92] They invited popular suspicion, especially when they proposed

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86 Ibid., 347.

87 Ibid.: "Mais quel projet est plus beau & plus avantageux à l'humanité, que celui de ramasser des peuples dispersés dans l'horreur des forêts de l'Amerique..."

88 Ibid., 346.

89 Most famous is his proposal of a flat tax, *Projet d'une Dixme Royale* (N.A., 1707). Sabine Reungoat, "Les Travaux d'arithmétique politique de William Petty et leur diffusion en France," in *Vauban, architecte de la modernité?*, eds Thierry Martin and Michèle Virol (Paris, 2008), 45–55; 46.

90 Voltaire, *Le Siècle de Louis XIV*, 2 vols. (London, 1752), 1: 201: "le meilleur des citoyens, homme toûjours occupé de projets, les uns utiles, les autres peu practicables et tous singuliers."

91 Sébastien le Prestre, "Moyen de rétablir nos colonies de l'Amérique et de les accroître en peu de temps (28 avril 1699)," and "Etat raisonné des provisions les plus nécessaires quand il s'agit de donner commencement à des colonies étangères," in *Les Oisevetés de Monsieur de Vauban*, ed. Michèle Virol, 12 vols. (Paris, 2007), 4: 539–74 and 575–86.

92 de Felice, *Encyclopédie*, s.v. "Projet," 35: 342.

increasing the sovereign's revenue and power. Happy was the land where the people, cured of prejudice, would allow others to contrive its fortune![93]

By its very nature, the genius that gave rise to projects was not suited to the humdrum work of carrying it out. Schmidt d'Avenstein recommended the practice of China, where ministers were divided into two classes: doers, who handled the details of government; and thinkers, who formed and examined projects.[94] He thus anticipated what Graber identifies as a major question for nineteenth-century projecting: the relationship between individual ideation and collaborative, anonymous, or state administration in public works.[95]

The History of Projects and the History of Science

From his Enlightenment vantage point, Schmidt d'Avenstein instated individuals such as Bacon and Descartes (the first and paradigmatic projectors he discussed), as benefactors of all humankind.[96] Rejecting such lionization, contemporary narratives of the history of science draw attention to local and multiple actors, to a mixture of central and peripheral forms of knowledge, and to the contingency of commerce rather than the planning of projects.[97] Circulation has become a popular model for distancing science from imperial origins and structures.[98] By contrast, the motion of projection begins at a central point and radiates outwards. Perhaps for these reasons, while projects appear frequently in the history of science, they remain obscure historiographically, despite the current emphasis on commerce and economic history.[99] Even

93 Ibid., 355: "Heureux le pays... où le peuple, guéri de ses préjugés, permet qu'on fasse son bonheur!"

94 Ibid., 354.

95 Graber, "Du Faiseur des projets."

96 de Felice, *Encyclopédie*, s.v. "Projet," 35: 343.

97 Harold Cook integrates both Bacon and Descartes into a global commercial story in *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven, 2007).

98 Kapil Raj, *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650–1900* (Basingstoke and New York, 2007).

99 Landmark collections stressing, as a whole, commercial contingency do in fact discuss many centrally planned projects in individual chapters: *Merchants & Marvels: Commerce, Science, and Art in Early Modern Europe*, eds Pamela Smith and Paula Findlen (New York, 2002); *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, eds Londa Schiebinger and Claudia Swan (Philadelphia, 2005) and *Science and Empire in the Atlantic World*, eds James Delbourgo and Nicholas Dew (New York, 2008).

well-known works that have stressed projects and projectors have done little to raise the category's profile in the discipline.[100] Although projects provided a central vocabulary for global action in early modern Europe, their prominence has not risen along with history's globalizing turn.

A history of projecting can inform the historiography of science on several levels. Most immediately, it prompts historians to interrogate the 'projector' label – whether applied by, or to, their sources. The dynamic and contested relations between projectors, projects, and the public illuminate the place of individual ideas and efforts in collaborative scientific enterprises, learned and state institutions, and regimes of intellectual property. Most generally, the early modern discourse of projecting challenges the predominance of economic history in the history of science, foregrounding the histories of economic and political thought. While the former has offered a corrective to teleological and reductively colonial views of science, the latter might do so in a more sophisticated fashion. Schmidt d'Avenstein placed Enlightenment itself in a tradition of dubious schemes and unpredictable ventures, social tempests interacting with innumerable contingencies. The history of projects – of the scope and temporality of agency they envisioned – redirects our attention from the teleology of linear narratives to the context of posited futures that never came.

The following chapters illustrate how attention to the changing temporality, spatiality, scale, and publicity of projects in sixteenth-, seventeenth- and eighteenth-century contexts might inform the history of science. Leigh Penman's chapter on Lutheran pedagogical and political projects traces their sixteenth-century roots and their engagement with seventeenth-century natural philosophy, emphasizing spiritual and millenarian dimensions of projecting that would survive, sometimes in muted forms, long afterward. Eric Ash examines another attempt to engineer a new world: the Stuart project of draining the Fens. Here projecting's multifaceted advancement of central, putatively universal imperatives against local resistance rises to the fore. Anya Zilberstein turns to an extraordinary instance of transplantation: the late eighteenth-century project to bring breadfruit to Jamaica as fodder not only for animals but also for human populations of the enslaved and the poor. Exemplifying the boundary crossing typical of projects, this private effort also problematizes the relationship between a public sphere suffused with projecting and the racial hierarchies and imperial structures such projects reinforced.

100 The relationship between projects and the history of science is central to Deborah Harkness, *The Jewel House of Art and Nature: Elizabethan London and the Social Foundations of the Scientific Revolution* (New Haven, 2007).

Each article looks at the representations of futurity thrown forward by these early modern 'projections' as crucial both to their meaning in context, and to their historical significance. None of the specific modernities posited in these projects – the earthly golden age of Penman's eschatological visionaries, the universal reformation of Ash's Hartlibians, or the calibrated husbandry of dependent populations sketched by Zilberstein's imperial officials – came to pass as their projectors hoped. Yet each anticipated tendencies that approximated aspects of the futures posited, whether the 'melioristic' improvements of later educational reforms, the adoption of best practices in agriculture and resource management, or the biopolitical ambitions of the welfare state. These were not goals that motivated early modern projectors, but they were nevertheless legacies of projecting.

For what most unifies early modern projects is not their success – whether this is measured in terms of the aims professed or the durability of their effects. The more limited the project, the likelier to succeed, and yet it was the more expansive projects that stimulated critical reflection. The project's purposive engagement with the future offered a sphere, both within the project as written genre and in external reflections, for debating relationships between science, technology and the commonweal.